

Flight Scientist Report  
Wednesday 05/18/2022 ACTIVATE RF157

Flight Type: Statistical Survey Flight  
Flight Route: TXKF ENAPI 33.32N/68.75W 35.01N/69.23W 36.40N/69.63W ZIBUT ATLIC KLF  
Special Notes: Flight back from Bermuda with CALIPSO underflight

### King Air

Pilot report (Wusk):

Second flight of a two sortie day with HU25. Return flight from Bermuda. approximately 1+40 on the ground in Bermuda for refueling, and equipment scouting for upcoming deployment. Refueled to 14,000 # for Bermuda ops. UC12 take-off first. Take-off was about 10 mins early according to CALIPSO overpass timing. Some Cirrus clouds above FL240 on climb out so leveled at FL240 until clear. Continued climb to FL280 prior to CALIPSO track. At CALIPSO overpass time UC12 was approximately 30nm north of set point and about 20nm ahead of the HU25. Speed was bumped up after overpass to get through the headwinds on rest of flight home. 4 Sondes dropped. RNAV 08 Approach at KLF. Landed at 5:15 about 15 minutes behind the HU25. US Customs officers on site and cleared US Customs uneventfully (2nd time for Customs at KLF).

Flight scientist report (Shingler):

TXKF ENAPI 33.32N/68.75W 35.01N/69.23W 36.40N/69.63W ZIBUT ATLIC KLF

Return flight from Bermuda along a CALIPSO track with over flight ETA at 1900z.

Cirrus at aprx 22kft and above halfway to ENAPI. Block altitude granted FL200-280. Aerosols persistent throughout the lower trop up to 8kft. Low stratified cu between 2-4 kft on the northern end with some scattered turrets up to 8kft. Possible dust layer at 11-14kft along underpass. UC12 was about 10 minutes early to center of track. Stayed on track for another 15-20 min past overpass time. Possibly a low loading layer of smoke between 20-24 kft. After making the turn off the CALIPSO track en route to ZIBUT, there are multiple stratified aerosol layers. It looks like there is a surface mixed layer with some residual aerosol above that which has dust, some smoke above that, more dust, then more smoke. Thick aerosol layer from 16-24kft near OUTES.

4 SONDES dropped

CALIPSO C

CALIPSO B

CALIPSO A

ATLIC

### Falcon

Pilot report (Slover):

ACTIVATE statistical survey flight from TXKF ENAPI 331923N0684531W 350025N0691409W 362449N0693841W ZIBUT ATLIC KLF. Flown as planned. Altitudes mostly below 6K with some clouds enroute, mostly 200 nm from Bermuda. Along the 331923N0684531W 350025N0691409W 362449N0693841W part of the track was almost entirely clear, and hit the mid point of the track within 2 minutes of satellite overpass.

Flight scientist report ():

Winstead:

No power cart available in Bermuda so all equipment had to be powered down for refueling. Approx. 1 hour before takeoff, one engine on Falcon was started so that the AMS could be powered up to begin stabilization to minimize downtime of useful data during flight.

18:21:00 Virus filters A & B on & cascade impactor on

19:06:00 Filters a & B off & cascade impactor off

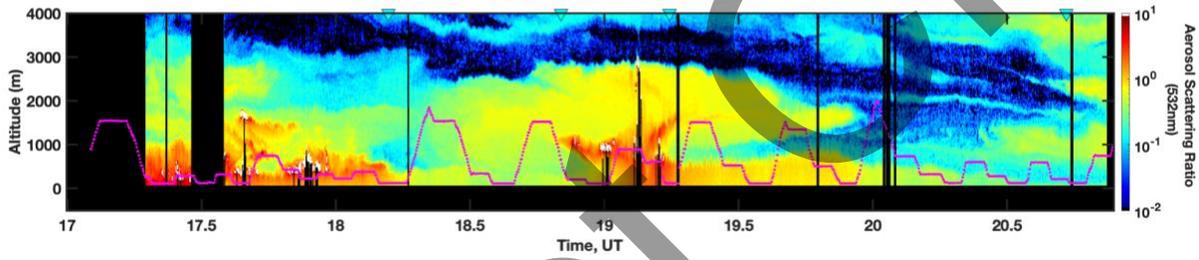
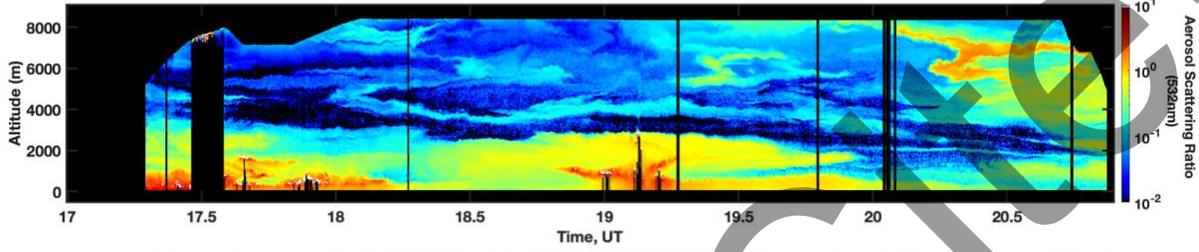
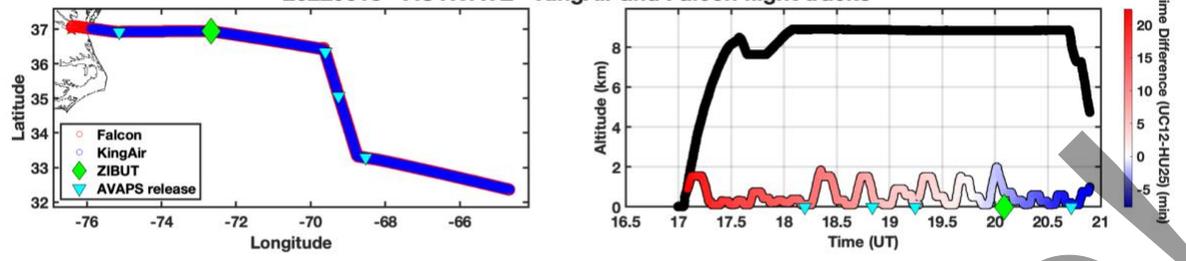
19:18:00 Filters A & B on

19:53 CPC 3776 still lower than CPC 3772

20:35:00 Filters A & B off

20:49:00 WCM & humidifier off in preparation for landing

### 20220518 - ACTIVATE - KingAir and Falcon flight tracks

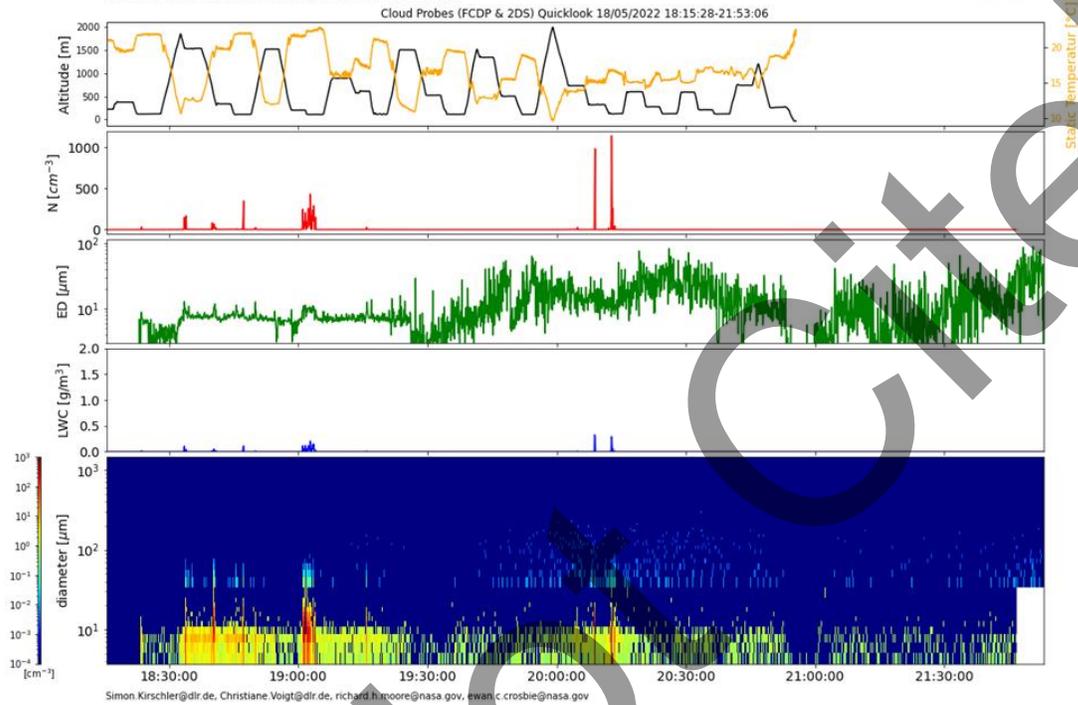


DO NOT

# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie

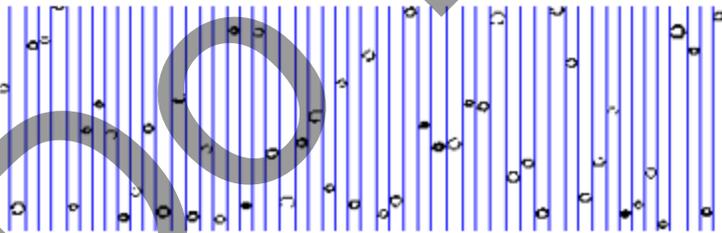
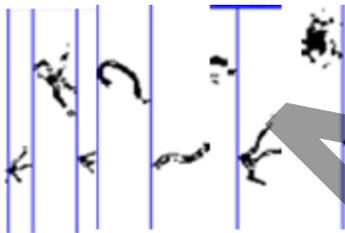
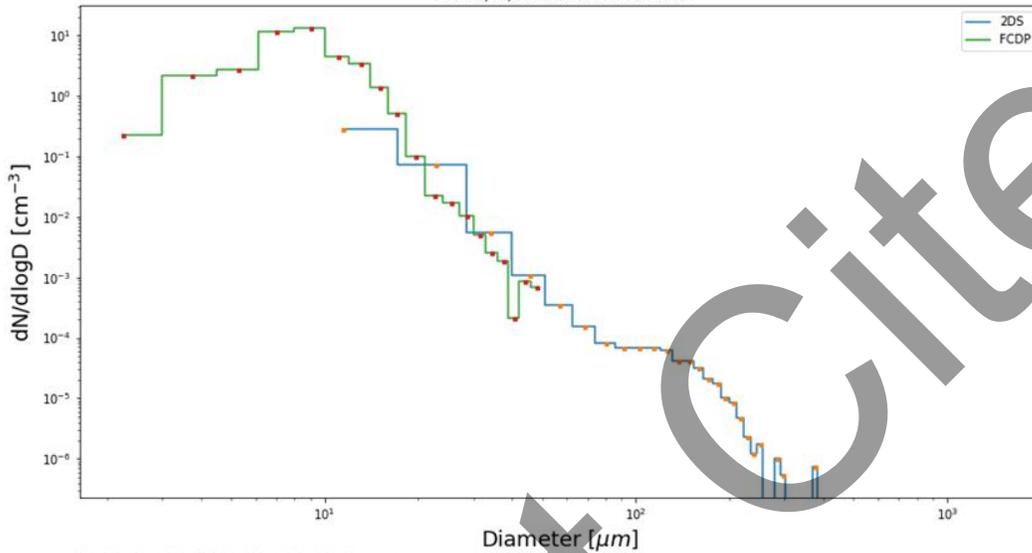


# PSD ACTIVATE

preliminary data, only for quicklook use  
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie

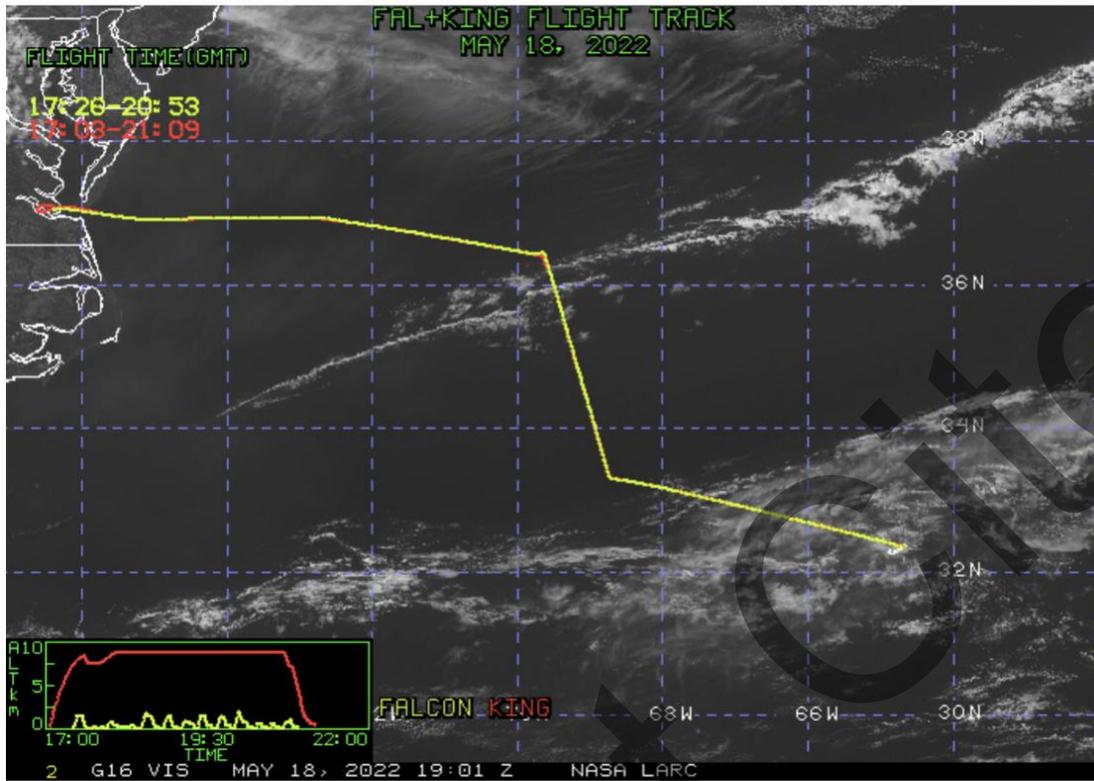


PSD 18/05/2022 18:15:28-21:53:06

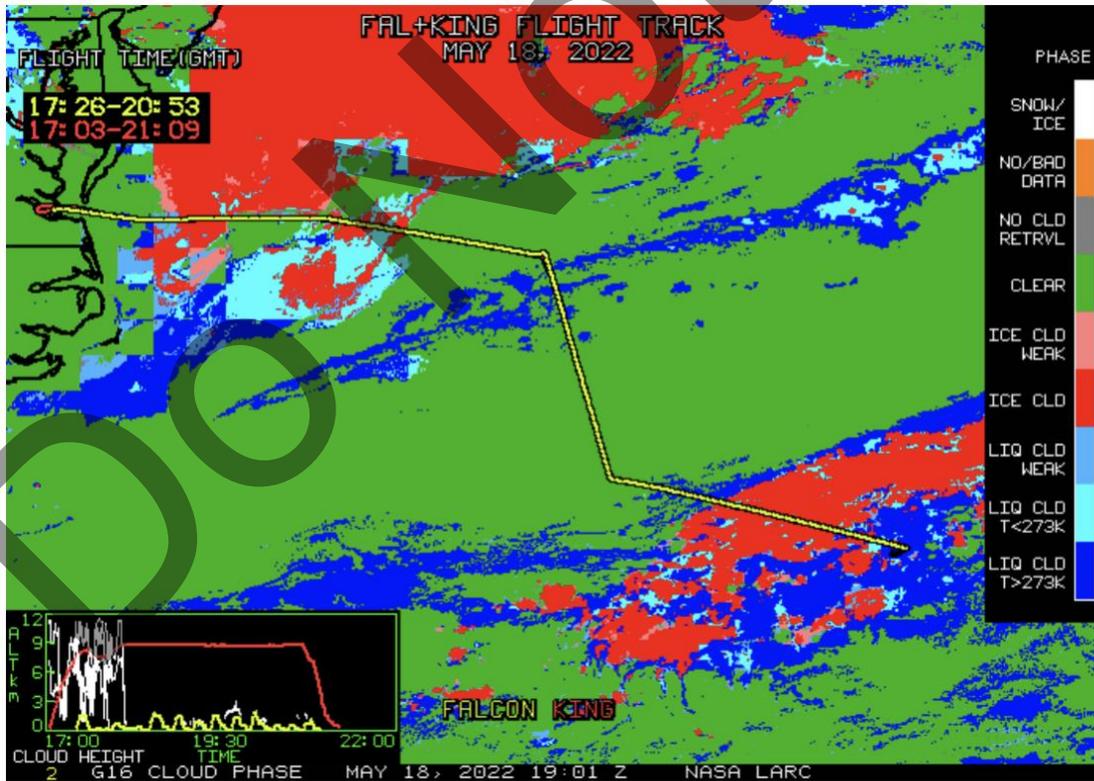


Only pure liquid clouds and Bioaerosol.

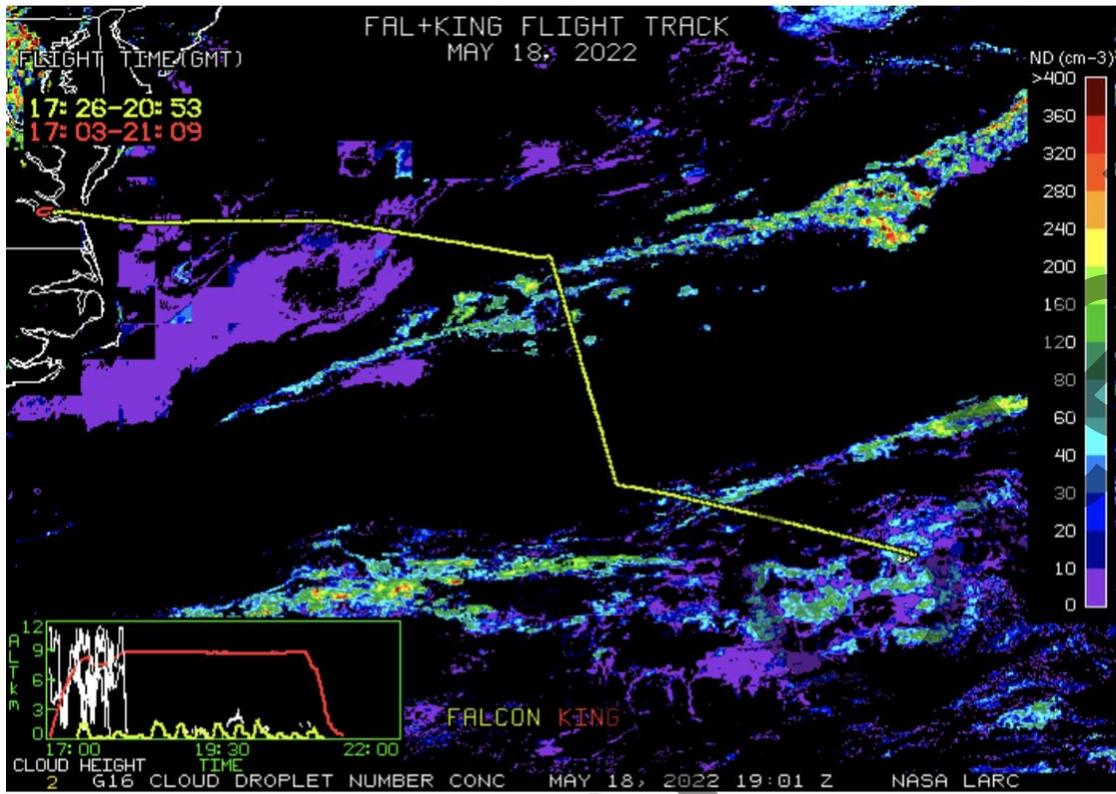
Visible Image



Cloud Phase



### Cloud Droplet Number Concentration (cm-3)



### Cloud-Top Height (Kft-ASL)

